Data Structures I :
Hash Tables

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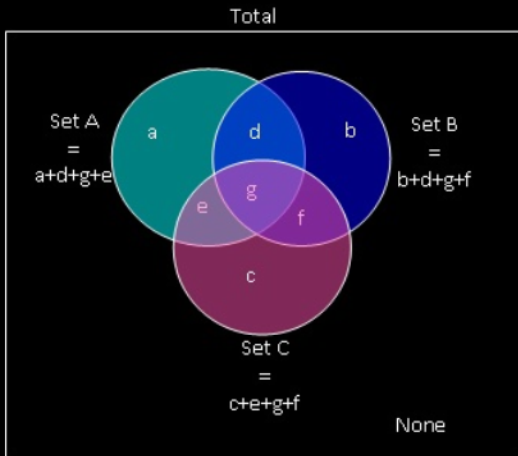**EAFIT**®

Disclaimer: Keep alcohol out of the hands of minors.

- 45 white rum
- 25 lime juice
- 15 simple syrup
- 4 strawberries

Total

Set A
=
a+d+g+e

Set B
=
b+d+g+f

Set C
=
c+e+g+f

None

A hash table is a data structure that can map keys to values.

`https://www.youtube.com/watch?v=h2d9b_nEzoA`

In open hashing, keys are stored in linked lists attached to cells of a hash table.

```
https://www.cs.usfca.edu/~galles/visualization/
                    OpenHash.html
```
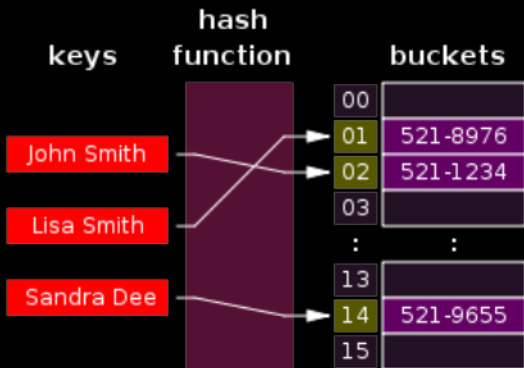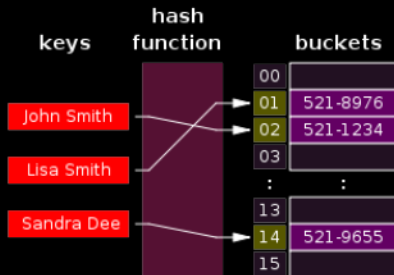
In closed hashing, all entry records are stored in the array. When a new entry has to be inserted, the buckets are examined, starting with the hashed-to slot and proceeding in some probe sequence, until an unoccupied slot is found.

```
https://www.cs.usfca.edu/~galles/visualization/
                    ClosedHash.html
```

Well-known probe sequences include: linear probing, quadratic probing and double hashing.

Simulation: http://visualgo.net/hashtable.html

- In Java, Class `HashTable` is deprecated.
- Now, we use class `HashMap`
- Class HashTable Vs Class HashMap
  `http://javahungry.blogspot.com/2014/03/`
  `hashmap-vs-hashtable-difference-with-example-java-interview`
  `html`
- `https://www.youtube.com/watch?v=TQls-N_TqMw`
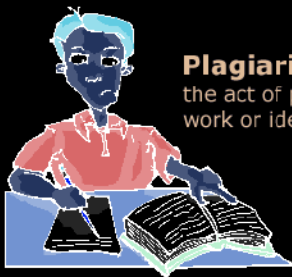- `https://www.youtube.com/watch?v=j442WG8YzM4`

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- Avoid plagiarism

Plagiarism:
the act of presenting another's
work or ideas as your own.

Figure: Figure about plagiarism, University of Malta [Uni09]

University of Malta.

Plagarism — The act of presenting another's work or ideas as your own, 2009.

[Online; accessed 29-November-2013].

- Hash tables
  - https://en.wikipedia.org/wiki/Hash_table